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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,839	06/20/2001	Andrew Witkowski	50277-1546	6253

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EXAMINER

WOO, ISAAC M

ART UNIT	PAPER NUMBER
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2172

16

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,839

Applicant(s)

WITKOWSKI ET AL.

Examiner

Isaac M Woo

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 15.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 13, 2004 has been entered.

2. Claim 7 is amended. Claims 61-62 are newly added. The pending claims are 1-62.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 and 41-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perez (U.S. patent No. 5,316,777).

With respect to claims 1, 7, 9, 10, 12 and 13, Sasaki discloses, the method for performing a database query operation (fig. 11, fig. 12, col. 2, 35-67 to col. 3, 1-67), receiving, at a database server (7, 9 and 11, fig. 1), a database query (data request, fig. 11) that specifies an operation for manipulating data, see (col. 6, lines 20-54); reference data in a relational structure as if data was stored in a multi-dimensional array (fig. 2, col. 1, lines 6-20, col. 2, lines 35-67 to col. 3, lines 1-9, col. 5, lines 17-50, col. 6, lines 20-54); in response to receiving the database query (fig. 11, fig. 12, col. 6, 20-54), the database server executing the query by performing; retrieving a first set of data from a first relational structure, see (col. 1, lines 6-20, col. 2, lines 35-67 to col. 3, lines 1-9, col. 5, lines 17-50, col. 6, lines 20-54); storing the first set of data in a structure that can be addressed as a multi-dimensional array, (col. 1, lines 6-20, col. 2, lines 35-67 to col. 3, lines 1-9, col. 5, lines 17-50, col. 6, lines 20-54), and performing the first set of data by performing the operation specified in the database query on the data, see (fig. 11, fig. 12, col. 6, lines 55-67 to col. 7, lines 1-57). Perez does not explicitly disclose, storing the data in a non-relational structure. However, Perez discloses the user's spreadsheet updated, see (col. 2, lines 35-67 to col. 3, lines 1-10). And the spreadsheet is one of a database table that is not the relational database. Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention was made to include the non-relational structure in the system of Perez to store data in non-relational data structure. Because management of relational database requires

understanding of syntax of SQL sentence, which is not easy for users. Spreadsheet provides easy manipulation of data management for users.

With respect to claims 2 and 17-18, Perez discloses, the storing the first set of data in a structure that can be symbolically addressed as an n-dimensional array, see (fig. 2, col. 1, lines 6-20, col. 2, lines 35-67 to col. 3, lines 1-9, col. 5, lines 17-50, col. 6, lines 20-54).

With respect to claim 3, Perez discloses, presenting in tabular format results from performing the operation, see (displaying in spreadsheet, col. 2, lines 35-67 to col. 3, lines 1-10).

With respect to claim 4, Perez discloses, automatically reordering the specified operations to allow the operation to be correctly performed on the data stored in the non-relational structure, see (displaying in spreadsheet (non-relational structure) as discussed above in claim 1, col. 2, lines 35-67 to col. 3, lines 1-10).

With respect to claim 5, Perez discloses, aggregating over a set of data information contained in multiple cells of the non-relational structure (spreadsheet includes multiple cells), see (col. 2, lines 35-67 to col. 3, lines 1-10).

With respect to claims 6, 11 and 20, Perez discloses, repeatedly performing a series of manipulations on the data until a particular criterion is satisfied, see (fig. 11, fig. 12, col. 6, lines 55-67 to col. 7, lines 1-57).

With respect to claim 8, Perez discloses, receiving a database query that specifies a multi-dimensional array operation, see (fig. 2, col. 1, lines 6-20, col. 2, lines 35-67 to col. 3, lines 1-9, col. 5, lines 17-50, col. 6, lines 20-54).

With respect to claim 14, Perez discloses, retrieving the first set of data from one or more tables within the relational database, see (fig. 2, col. 1, lines 6-20, col. 2, lines 35-67 to col. 3, lines 1-9, col. 5, lines 17-50, col. 6, lines 20-54).

With respect to claims 15-16, Perez discloses, storing the first set of data within a non-relational spreadsheet application, see (col. 2, lines 35-67 to col. 3, lines 1-10).

With respect to claim 19, Perez discloses, after performing the step of manipulating the first set of data, storing in a second relational structure, result information based on performance of the operation, see (fig. 11, fig. 12, col. 6, lines 55-67 to col. 7, lines 1-57).

With respect to claim 61, Perez discloses, the multi-dimension array has one or more dimensions that correspond to a column of the relational database, see (col. 5, lines 17-51).

Claims 41-60 and 62 are computer-readable medium claims which are identical previous claims 1-20, are rejected on grounds corresponding to the reasons given above in claims 1-20.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hooper et al (U.S. Patent No. 5,819,282) discloses the system for storing a plurality of data objects in a memory. Each data object has attributes including a key value and a data value. The data objects are partitioned into a plurality of classes, each class having one or more members, each member including the same attributes of the data objects. An access method is defined for at least one member of a specific class to access the data objects of the specific class by key values. For another member of the specific class, an access method to access the data objects of a related class is defined. A specific data value of a specific data object is compared with the key values of the data objects of the related class, and if the specific data value is equal to the key

value of a related data object a memory address of the related data object is associated with the specific data value.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac M Woo whose telephone number is (703) 305-0081. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IMW
April 30, 2004


SHAHID ALAM
PRIMARY EXAMINER